CONFERENCE GRANTS

The NRI provides partial support to conferences which bring together scientists in order to identify research needs, update information, or advance an area of research important to U.S. agriculture. Conference proposals are reviewed in the program area most appropriate for the type of research proposed; therefore, these nontechnical summaries also appear under the respective program areas.

9803663 ASAS Biennial Growth Symposium: Current Concepts of Animal Growth IX
Sartin, J.L.
Auburn University; Department of Anatomy, Physiology and Pharmacology; Auburn, AL 36849-5518
Grant 98-35206-6040; $9,000; 1 Year

Funding will provide partial support for an international symposium on growth biology to be held in conjunction with the 1998 combined meetings of the American Society of Animal Sciences and American Society of Dairy Sciences. The symposium will begin with a keynote address on genetic and transgenic animal models to study growth. The morning session will be devoted to an emerging area of research, the role of the fat cell in growth, metabolism, and disease. The first talk will examine peroxisome proliferator activated receptor gamma (PPARg)-linked signal transduction mechanisms and will be followed by studies of PPARg and growth. The third topic is the role of C/EBPa in coordinating the activation of fat cell specific genes. The final topic for the morning session is the role of the fat cell hormone, leptin, in food intake, growth and obesity. The focus of the afternoon session is on novel concepts or novel methodologies to employ in growth research. The first speaker will examine nutritional regulation of downstream regions of the insulin-like growth factor-I (IGF-I) gene. This will be followed by studies on adrenomedullin, a recently discovered hormone found to regulate cellular growth and differentiation. The final topic of the symposium is a novel method for repeatedly examining gene expression in living cells. This symposium provides a unique mechanism for animal scientists to interact with leading biomedical scientists in the area of growth biology. The Biennial Growth Symposium has a history of fostering new research initiatives, new collaborations, and providing animal scientists with new and novel approaches to improving animal growth.

9802551 Fourth International Symposium on Cytochromes P450: Biodiversity and Biotechnology
Feyereisen, R.
University of Arizona; Department of Entomology; Tucson, AZ 85721
Grant 98-35302-6920; $9,000; 1 Year

Cytochromes P450 are a superfamily of enzymes with a wide range of catalytic activities that make them critically important in virtually all life forms. In recent years they have been shown to be important in many dimensions of agricultural research. They are significantly involved in biosynthetic pathways which regulate plant growth and development, in metabolism of herbicides, insecticides, and fungicides, and in the biosynthesis and metabolism of toxins which are produced in grain.

The Fourth International Symposium on Cytochromes P450 - Biodiversity and Biotechnology - provides a forum for discussing leading research in the field through a single lecture series of 30-35 presentations interspersed with scheduled poster presentations and ample time for informal discussions. The grant provides funds to help support travel expenses for competitively identified advanced pre-doctoral and post-doctoral students from the U.S.

The meeting will be hosted by Francis Durst, Research Director at the Institute of Plant Molecular Biology (IBMP) at the National Center for Scientific Research (CNRS), located on the campus of the University of Louis Pasteur in Strasbourg, France. Dr. Durst has a prestigious reputation for his cutting edge research on plant cytochromes P450 and his world-wide collaborations. He has selected members of his advisory board and organizing committee from eleven different countries, including thirteen scientists from the U.S. The meeting will be held July 12-16, 1998.

9802693 Third International Symposium on Molecular Insect Science
Hildebrand, J.G. ; Wells, M.A.
University of Arizona; Center for Insect Science; Tucson, AZ 85721-0106
Grant 98-35302-6956; $5,000; 1 Year

The Third International Symposium on Molecular Insect Science will be held in Snowbird, Utah June 5-10, 1998. The purpose of the Symposium is to emphasize new and exciting advances currently taking place in the field of molecular insect science. The molecular approach will be viewed in the broadest sense, realizing that molecules form the basis of all biological systems, and whether one starts with the molecules themselves or with the whole organism or whole ecosystems, molecules can form a common ground for scientific discussion. This meeting will bring together scientists of all levels of analysis for an exciting exchange of ideas. Topics of this meeting will include resistance to agricultural insecticides, the development of methods for genetic engineering of insects, insect flight, and the interactions between insects and their parasites.

9800639 FASEB Summer Conference on Micronutrients: Trace Elements
Rucker, R.B.; King, J.C.
University of California, Davis; Department of Nutrition; Davis, CA 95616-8669
Grant 98-35200-6163; $10,000; 1 Year

The FASEB summer conferences are a major vehicle for scientific communication. The conference entitled - Micronutrients: Trace Elements - brings together world leaders who have contributed significantly to our knowledge base regarding the physiological importance of copper, zinc, and selenium metabolism in relationship to their roles as essential dietary constituents. The conference is designed to extend discussions in these areas and share information seminal to future work. The meeting will be held at the Namaste

Retreat Center in Wilsonville, Oregon. Specific topics will focus on the cellular metabolism, transport, and functions of copper, zinc or selenium at the molecular levels. There will be two 3 to 3 and 1/2 hour sessions each day (Monday through Thursday). A morning session will be held on Friday. Discussion of new concepts and ideas will be encouraged. A work shop will also be held on recent evidence that has been used to establish the essentiality of boron. The conference is designed to describe and identify new functions and metabolic roles of essential trace elements; a key component in the understanding of human requirements.

9801027 Gordon Conference on Cellular Basis of Adaptation to Salt and Water Stress in Plants

Bray, E.A.
University of California, Riverside; Department of Botany and Plant Sciences; Riverside, CA 92521
Grant 98-35100-5990; $6,000; 1 Year

The Gordon Conference on the Cellular Basis of Adaptation to Salt and Water Stress in Plants will be held August 16-21, 1998 in Oxford, U.K. at Queen's College. The Chair of the Conference is Andrew Smith (University of Oxford) and the Vice-Chair is Elizabeth Bray (University of California, Riverside). It is the third conference in this series. The first Conference (held in August 1994) was focused solely on salinity. The second Conference (held in August 1996) was broadened to include cellular aspects of water stress and succeeded in attracting a wider range of researchers, bringing new ideas to both salt- and water-stress research, and ultimately increasing the potential impact of this Conference series on agriculture. The third conference will continue this tradition. The specific goals of this conference are: (1) to emphasize the importance of cellular and molecular approaches to understanding plant adaptation to environmental stress; (2) to highlight the latest progress in cell-level research on salt and water stress, particularly in the rapidly developing areas of ion transport proteins, ion and water channels, osmoprotectant biosynthesis, analysis of stress-induced gene expression, and dissection of the pathways of signal transduction; (3) to consider how advances at the cellular and molecular levels improve our understanding of adaptive responses, which may be applied in breeding or genetic engineering of plants for enhanced tolerance to water and salt stress; and, (4) to bring together a mix of established and beginning researchers from North America, Latin America, Europe, Japan and Australia and to promote extensive formal and informal discussions on current research problems and future opportunities.

9801458 Financial Support for 20th Annual Symposium in Plant Physiology

Nothnagel, E.A.
University of California, Riverside; Department of Botany and Plant Sciences; Riverside, CA 92521
Grant 98-35304-6921; $5,000; 1 Year

This award provides partial support for "Cell and Developmental Biology of Arabinogalactan-Proteins," the 20th Annual Symposium in Plant Physiology at the University of California, Riverside, to be held on January 21-23, 1999. The organizers are Eugene Nothnagel, Department of Botany and Plant Sciences at UCR, and Adrienne Clarke and Antony Bacic, Plant Cell Biology Research Centre, University of Melbourne, Australia.

Arabinogalactan-proteins (AGPs) are a class of structurally-complex macromolecules that are present at the surface of cells throughout plants. Typically consisting of about 90% carbohydrate and 10% protein, AGPs are the focus of increasing research interest from the viewpoints of both function in the plant and practical application in industry. Recent research points to roles of AGPs in reproductive development, vegetative development, somatic embryogenesis, and the underlying processes of cell division and expansion. Other work focuses on AGPs as major components in gum arabic, a plant gum with unique viscosity and emulsifying properties that have led to many uses in the food and other industries. *Acacia senegal* trees yielding the best gum arabic grow in the Sudan, which has produced as much as 60,000 tons of gum arabic per year at a value of $360 million. Political problems in the growing regions and quality variations due to environmental fluctuations have led to interest in developing reliable, domestic alternatives to gum arabic. The symposium will bring together scientists representing the full spectrum of AGP research and will lead to a coherent volume that reports advances in cell and developmental biology of AGPs and their practical applications.

9802421 Vth International Symposium on Reproduction in Domestic Ruminants

Niswender, G. D.
Colorado State University; Animal Reproduction and Biotechnology Laboratory; Ft. Collins, CO 80523-1682
Grant 98-35203-6023; $9,000; 3 Months

The symposium, planned by a committee representing ten countries, will bring together the latest information on reproductive physiology and reproductive management of domesticated ruminants, including cattle, sheep, goats, deer, water buffalo, and camelids. The symposium will serve as a forum for comparing how reproductive functions are similar or different among these economically important species. Specific sessions include: 1)Follicular Development, 2)Neuroendocrine Relationships, 3)Comparative Reproductive Function: Implications for Management, 4)The Corpus Luteum, 5)Male Function and Fertility, 6)Embryonic Survival, 7)Local Cellular and Tissue Communication, 8)Nutrition and Metabolic Signaling, and 9)Reproductive Technology. In addition, two poster sessions will be held. The symposium will also provide an opportunity to compare techniques, experimental designs, analytical methods, environmental and ethical concerns, and ways to maximize utilizations of research resources. It will provide an opportunity for exchange

of the latest information among the leading scientists in countries and research groups around the world. Proceedings will be published as a supplement to the *Journal of Reproduction and Fertility*. Thus, critical, state-of-the-art information will rapidly become available to thousands of scientists in the United States and throughout the world. New collaborations will be forged among attendees, thus broadening comparative approaches and increasing the rate of progress of our understanding of the reproductive processes and the application of that understanding to reproductive management of domestic ruminants. The progress is extremely critical to the successful and economical production of animal protein to feed the continually increasing human population.

9803675 Gordon Research Conference on Mammary Gland Biology
Neville, M. C.; Daniel, C. W.
University of Colorado; Department of Physiology; Denver, CO 80262
Grant 98-35206-6468; $10,000; 1 Year

This grant will support the Fifteenth Biennial Gordon Research Conference on Mammary Gland Biology to be held at New England College, Henneker, New Hampshire, June 6 - 11, 1999. This conference brings together scientists from all communities with an interest in the Biology of the Mammary Gland: including Agricultural Scientists, Physiologists, Cell and Developmental Biologists and Cancer Biologists. The focus of the conference is the basic biology of mammary development and milk secretion. This year the major themes of the conference will be the role of steroid hormones, extracellular matrix and growth factors on mammary gland development, the function and evolution of milk protein genes and adaptations of lipid metabolism to lactation. Sixteen young investigators will be invited to present their work in poster discussion sessions. Workshops on new techniques will allow investigators to consider advanced technologies for their own laboratories. An understanding of these fundamental problems and new experimental technologies will aid the agricultural community in producing milk of a desired composition in the most cost effective manner.

9802057 2nd International Workshop on Molecular Pathogenesis of Marek's Disease Virus
Morgan, R. W.; Kung, H.
University of Delaware; Department of Animal and Food Sciences; Newark, DE 19717-1303
Grant 98-35204-6399; $5,000; 1 Year

This workshop will be held August 8-11, 1998 at Smolenice Castle, Bratislava, Slovakia. This workshop is a sequel to the First International Workshop on Current Developments in the Molecular Biology of Marek's Disease Virus (MDV) organized by the late Dr. Meihan Nonoyama and held in Tampa Bay, Florida in January of 1995. These workshops are intimate gatherings of 50-75 individuals representing leading laboratories worldwide involved in research on the molecular biology of MDV. They are held at four-year intervals interspersed between the large International Marek's Disease Virus Symposia. The workshops allow members of the international MDV research community, particularly those involved in molecular biology-related research, to meet and exchange information, ideas and insights every two years. Slovakia was chosen as the venue for this workshop because since 1988, both of the MDV meetings were held in the United States and the next International Symposium will be held in Montreal in 2000. Therefore, the International Steering Committee chose Slovakia as the location for the 1998 workshop. In addition, the poultry export market to Russia is one of the largest areas of growth potential for the U.S. poultry industry. It would greatly benefit U.S. scientists to visit former Soviet block countries and learn more about their industry and its market potential.

9802519 Society for Tropical Veterinary Medicine Biennial Conference; Key West, Florida, June 1999
Gibbs, P.
University of Florida; Department of Pathobiology; Gainesville, FL 32611
Grant 98-35204-6442; $8,700

The 1999 Conference of the Society for Tropical Veterinary Medicine (STVM) will be held in Key West, Florida. The theme of the conference is Tropical diseases; research on their control and prevention within the context of the "new world order". A "new world order" is emerging as we approach the next century. Within that context, research on the prevention, control, and eradication of tropical diseases is as much a reflection of economics, politics and societal wishes as it is the product of science and technology. The 3 day conference program will explore the opportunities and constraints of the "new world order" by holding symposia in the morning with "break out" sessions by discipline in the afternoons. An international perspective with speakers from around the world will be presented in the symposia; the focus will be on epidemiology, global trade, vaccines and diagnostic technologies. There will also be one afternoon field visit to federal and State organizations in Key West, charged with protecting the USA from the introduction of animal pathogens. The proceedings will be published in the Annals of the New York Academy of Sciences.

9801451 1998 Congress on In Vitro Biology - Plant Program
Parrott, W. A.; Jones, T.
University of Georgia; Department of Crop and Soil Sciences; Athens, GA 30602-7272
Grant 98-35300-6199; $2,500; 1 Year

The advent of the era of genomics is presenting new challenges and opportunities to plant scientists who work in a variety of disciplines. A working definition of genomics was provided in the Editorial in the October 24, 1997, issue of Science (278:555), which stated "In the broadest sense, the issue (genomics) is concerned with taking the sequence information that is the output of the project to the next level - making it useful in studies ranging from understanding the function associated with the sequences to making the transition from gene discovery to the clinic." As applied to plant-based agriculture, the transition is not to the clinic, but to farmers' fields. It is evident that plant scientist working in a variety of disciplines, ranging from gene discovery in a laboratory to scientists engineering newly discovered genes into plants, will have to work together to achieve the final goal of letting farmers be the ultimate beneficiaries of plant genomics. To achieve that goal, this meeting will bring the different types of scientists together so that they may learn about each others' disciplines, and expose them to the latest emerging tools, such as molecular cytogenetics, which is rapidly emerging as an area that impacts on plant tissue culture and genetic engineering, as it is providing tools which can be used to address long-standing issues in somaclonal variation and expression and integration of transgenes. Accordingly, we are also planning a symposium to familiarize the SIVB Plant Program membership with this area.

9801516 Community Policy Analysis Conference
Otto, D. M.
Iowa State University; Department of Economics; Ames, IA 50011
Grant 98-35401-6228; $10,000; 1 Year

The aim of this conference proposal is to bring together numerous academicians, professions from State and local communities, and others to develop standardized indicators and procedures for analyzing the impacts of change in economic conditions brought about by external (state and Federal) programs; once accomplished, to develop the means by which the impacts of various Federal and other external programs on rural communities can be estimated; then document these procedures and other inputs for use by other researchers as the develop modeling capacities for their respective states; and finally, to develop the capacity to conduct community-level policy analysis.

9803483 First International Pig Chromosome 13 Workshop
Tuggle, C. K.
Iowa State University; Department of Animal Science; Ames, IA 50011-3150
Grant 98-35205-6906; $2,000; 1 Year

Genetic loci controlling important traits in the pig have been identified on chromosome 13 (SSC13), including traits for growth, carcass characteristics, and bacterial infection of piglets. However, the actual genes have not been identified. Several collaborative groups have focused substantial efforts on SSC13 to understand and pinpoint the genes affecting these economically important traits. These joint projects have progressed to the stage that a public forum for discussion would be highly useful for further progress to be made. Speakers at the Workshop will report unpublished work on newly combined genetic and physical maps for SSC13, current progress in comparative mapping, and the current status of projects to map the location of growth and disease resistance traits on SSC13. The sponsorship by the USDA of this Workshop is directly related to the mission of the USDA in increasing the information available on the genomes of animals, developing the means to improve the characteristics of livestock, and increasing the global competitiveness of US agriculture. As several of the projects and new technologies to be presented and discussed at the Workshop are being performed outside the US, the Workshop will be an opportunity for US researchers to learn up-to-date technologies which
can further research in mapping projects of interest to US agriculture. Thus a final important Workshop activity will be discussion of additional collaborative projects to further global pig mapping research.

9801126 Contemporary and Emerging Issues in Animal Physiology
Hurley, W. L.
American Dairy Science Association; Savoy, IL 61874
Grant 98-35203-6026; $5,000; 1 Year

The project is in partial support of the physiology program to be held at the Joint American Dairy Science Association and American Society of Animal Science Meetings in July, 1998, in Denver, Colorado. The conference program will enhance the overall research efforts of U.S. agriculture by providing a forum for synergistic interaction among animal physiologists
and other animal scientists with diverse research interests from all parts of the world. The program encompasses many aspects of animal reproductive physiology, mammary gland biology and milk synthesis, and other areas of animal physiology. The program is organized to focus on contemporary and emerging areas of research in animal physiology. In addition, program planning is aimed at maximizing discussion and participation by the audience, choosing internationally recognized speakers, and using non-traditional approaches in program organization and presentation. The core of the conference is a series of mini-symposia, each with two to three internationally recognized speakers who will provide state-of-the-art talks. Planned sessions include mini-symposia on "Emerging Reproductive Technologies," "Male Reproduction," "Metabolic Regulation of Reproduction," and "Cell Turnover in Reproductive Processes". A

roundtable discussion on "Plasticity of Mammary Gland Function" will also be held. The overall program includes poster sessions presenting current research by the international animal physiology communities.

9801145 Statistical Genetics in Agriculture: An Interdisciplinary Future
Doerge, R. W.
Purdue University; Department of Statistics; West Lafayette, IN 47907-1399
Grant 98-35300-6133; $2,000; 1 Year

The 6th Purdue Symposium on Statistics will be held June 17-23, 1998, at Purdue University, West Lafayette, Indiana. This meeting will concentrate on the new and evolving of Statistics in many fields which require interdisciplinary efforts. One portion of the meeting will be a two day (June 21-23, 1998) conference on Statistical Genetics entitled, "Statistical Genetics in Agriculture: An Interdisciplinary Future." The integration of Genetics and Statistics into a cross-disciplinary effort supports an expanding view in Statistics. Interdisciplinary interaction focuses on a teamwork strategy, drawing together people of different training for the actual solution of national problems, as exhibited by current United States agriculture concerns. The main objective of this conference is to bring together bench scientists and applied theoreticians in agricultural genetics to discuss their current and future needs. The proposed conference supports the interdisciplinary problems currently facing the plant genomics community in the United States.

9800664 2nd International Conference - Novel Approaches for Controlling Livestock Helminths
Miller, J. E.; Klei, T. R.; Williams, J. C.
Louisiana State University; Department of Epidemiology and Community Health; Baton Rouge, LA 70803-0001
Grant 98-35204-5901; $9,000; 1 Year

Helminth parasites remain to be an important limiting factor in livestock health and production world wide. In light of the almost exclusive use of chemicals in the control of these agents, alternate strategies are necessary to reduce costs, produce residue free animal products, decrease potential environmental contamination, and control these agents as drug resistant parasite populations increase in prevalence. This award provides partial support for the 2nd international conference on Novel Approaches to the Control of Helminth Parasites of Livestock to be held at Louisiana State University in Baton Rouge, March 22 through March 26, 1998. In addition to registration fees other funding has been promised or is in place from a number of sources including Louisiana State University, the pharmaceutical industry, Empresa Brasileira de Pesquisa Agropecuaria (EMBRAPA, Brazil), and funds remaining from the 1st Novel Approaches conference held in Australia in 1995. The overall goal of this conference is the integration of novel parasite control methods into sustainable systems of livestock management. The specific objectives are to: 1. Examine the status of the approaches currently being studied by critical open debate; 2. Identify the information yet needed for the realistic implementation of these technologies in the field; 3. Foster an environment conducive to the establishment of working relationships between individuals in different disciplines; and 4. Disseminate information and discussion generated through publication in the International Journal for Parasitology. This will be accomplished through a workshop and poster format for the meeting.

9801636 8th International Conference on *Chlamydomonas*
Snell, W.J.
Genetics Society of America; 9650 Rockville Pike; Bethesda, MD 20814
Grant 96-35306-3914; $4000; 1 Year

This proposal requests support for the 8th International Conference on the Cell and Molecular Biology of *Chlamydomonas*, to be held in Tahoe City, California on June 2-7, 1998. Since its inception in 1983 this now biennial conference has brought together investigators from different disciplines from the United States and abroad to discuss a variety of problems being studied in this organism including organelle heredity, cell differentiation and motility, fertilization, nitrogen and carbon metabolism, resistance to drugs and herbicides, and photosynthesis. The chloroplast of *Chlamydomonas* is very similar to that of higher plants and photosynthetic measurements are easily made on intact cells or thylakoid membrane preparations. In addition, mutants blocked in photosynthesis are readily obtained and are viable if cells are provided acetate as a carbon source. Experiments with *Chlamydomonas* often have paved the way for progress in many areas of chloroplast and photosynthesis research in agriculturally important plants. The interactions between scientists presenting their work at this conference have been particularly useful in rapidly disseminating technical breakthroughs and developing new, broadly useful methodologies. The meeting also has been important in establishing collaborations and in promoting exchange of mutants and molecular probes. Finally, the continued recruitment of new investigators with different backgrounds and fresh ideas is critical for maintaining the vitality of the field. This conference makes it possible for graduate students and postdoctoral fellows to be exposed to the full range of studies of *Chlamydomonas* and also to have the opportunity to meet colleagues and potential postdoctoral mentors.

9802269 Third International Symposium on Aquatic Animal Health
Kane, A. S.; Poynton, S. L.
University of Maryland; Department of Pathology, Baltimore, MD 21201

Grant 98-35204-6474; $8,500; 1 Year

The Third International Symposium on Aquatic Animal Health, to be held August 30th through September 3rd, 1998, at the Renaissance Harborplace Hotel - Baltimore, Maryland, will unite the expertise of aquatic animal health researchers, practitioners and managers from around the world. The symposium will provide the first major international forum for presentation and exchange of information on an important diversity of freshwater and marine species including crustaceans, molluscs, cephalopods, fish and marine mammals. The objectives of the research conference include (1) the exchange of up-to-date information on infectious and non infectious diseases of aquatic animals, including disease prevention and treatment, (2) fostering national and international cooperation to support improvements in the health of invertebrates and fish important for aquaculture, and (3) dissemination of current information on control and certification procedures, particularly regarding pathogens listed in the OIE (L'Office International des Epizooties) Aquatic Animal Health Code. The format for the symposium will include plenary lectures, oral and poster presentations, discussion groups and workshops, and visits to local aquatic animal health research facilities. The symposium will also host and integrate the meetings of the 1998 Fish Health Section of the American Fisheries Society, and the Aquaculture and Seafood Advisory Committee of the American Veterinary Medical Association. USDA funding, in part, will be used to produce the symposium plenary and contributed oral sessions. The subject matter focus of these sessions, and the symposium in general, is aquatic animal health and well-being. Additional symposium information can be obtained on the worldwide web (http//som 1.b.umd.edu/AquaticPath/isaahweb).

9801501 1998 Gordon Conference on Plant Molecular Biology

Green, P.J.

Michigan State University; DOE Plant Research Laboratory; E. Lansing, MI 48824-1312

Grant 98-35301-6047; $8,000; 1 Year

This is to support a Gordon Research Conference to be held at the New England College, Henniker, New Hampshire, on July 19-24, 1998. The theme of the conference will be Plant Biological Regulatory Mechanisms. The objective of this conference is to bring together a wide range of plant scientists who are investigating basic plant cellular processes in a variety of plant species. The meeting will explore various regulatory mechanisms controlling many aspects of plant gene expression and function, signal transduction, cell-cell interactions, and development. There will be sessions on nuclear and cytoplasmic control of gene expression, gene silencing, metabolic control, and the molecular genetics of reproductive development. These will be followed by sessions on plant-microbe interactions, plant responses to the environment, and hormonal control. Dr. Joanne Chory will be the keynote speaker of the conference, discussing light, brassinosteroids, and *Arabidopsis* development. Talks have been chosen to emphasize mechanistic processes and themes that will recur throughout the week, leading to stimulating discussions. The conference will be attended by about 135 scientists representing a broad cross-section of young and established scientists working in academic, government, and industrial laboratories.

9801650 Social Capital: An International Conference Bridging Disciplines, Policies, and Communities

Robison, L. J.; Siles, M. E.

Michigan State University; Department of Agricultural Economics; East Lansing, MI 48824

Grant 98-35401-5915; $10,000; 1 Year

This conference is planned to bring together scientists and workers from different disciplines and divergent practical interests who share an interest in social capital and its consequences. Then in break-out groups and combined discussion sessions, to discover the essential components of social capital and define its essential characteristics.

Products of the conference are expected to include the following. Before the conference, a web page will contain abstracts for all presentation so that conference attendees and synthesizes can explore the topics to be discussed. Following the closing session, a panel of synthesizers will prepare a summary report based on the closing session definitions and suggested application of synthesizers, and written and verbal feedback from conference participants. Finally, the longer run conference product is an edited work related to the topic of the conference including edited version of some papers presented at the conference.

9803428 11th North American Colloquium on Domestic Animal Cytogenetics and Gene Mapping

Ponce de Leon, F.A.; Schook, L. B.; Beattie, C. W.

University of Minnesota; Department of Animal Science; St. Paul, MN 55108-6160

Grant 98-35205-6905; $4,000; 1 Year

The central objective is to organize the 11th North American Colloquium on Domestic Animal Cytogenetics and Gene Mapping in Minneapolis-St. Paul, July l999. This is a colloquium that brings together researchers and students specialized in classical and molecular cytogenetics. Since the early seventies the contribution of cytogenetics to the development and saturation of genetic and physical maps for farm animal species has been significant. The organization of this colloquium seeks to stimulate and encourage the application of new molecular cytogenetic technological developments and to stimulate students to continue work in this area of research. The colloquium is seen as a forum for researchers and students to identify opportunities for collaborations and continued application of

new technologies that enhance our understanding of the genome organization of farm animal species. Past meetings have attracted an average of seventy national and international participant of which about 40% are students.

9801279 Stadler Genetics Symposium
Mitchell, R. L.; Gustafson, J. P.
University of Missouri; College of Agriculture; Columbia, MO 65211
Grant 98-35300-6134; $10,000; 1 Year

In today's scientific arena an inter-kingdom interaction of scientists and students is essential for rapidly advancing our knowledge on genomes. Most of the techniques used are the same (with minor variations) regardless of which kingdom in which the research is being conducted. The Stadler Genetics Symposium is intended as a Symposium designed to bring scientists to the University of Missouri campus to discuss their research which is very important for the utilization and dissemination of existing technology. Many symposiums organized in the past have suffered by splitting up the various disciplines into separate rooms and having concurrent sessions. This type of arrangement does bring the scientists together but does not allow for much interaction. The Stadler Genetics Symposium will have all the participants in the same room listening to all presentations in order to generate interactions. This type of arrangement has worked very well in the past. In addition, a Symposium organized along inter-kingdom research is critical for a better understanding of the results and what they mean in relation to genome evolution and manipulation.

9802443 Conference on Emerging Technologies in IPM: Concepts, Research, and Implementation
Sutton, T. B.; Kennedy, G. G.
North Carolina State University; Department of Plant Pathology; Raleigh, NC 27695
Grant 98-35316-6381; $5,000; 1 Year

One of the seminal events in the development of Integrated Pest Management (IPM) was a conference titled "Concepts of Pest Management" which served to establish ecological and economic principles as the foundation of IPM and provided a catalyst for the initiation of many research and extension programs. IPM is the prevailing paradigm for crop protection now throughout much of the world. Recently, however, in its report Ecologically Based Pest Management: New Solutions for a New Century, the National Research Council (NRC), expressed concern that a focus on pesticides and individual pests continues to dominate IPM. The NRC has called for a shift from managing individual organisms to managing pest and crop systems based on new methods and knowledge of processes, flows and relationships among organisms.

Many scientific and technological advances of the last decade have tremendous potential for advancing IPM along the lines envisioned by the NRC. To accomplish this will require new information, the formulation of new concepts, and increased interdisciplinary collaboration. The proposed conference will facilitate the development and adoption of emerging technologies in a way to optimize their contribution to the advancement of ecologically based IPM.

Objectives of the conference are to: (i) Stimulate the development of new concepts and approaches to the integration of emerging technologies in IPM, (ii) Provide a forum for interdisciplinary education and the sharing of perspectives among disciplinary specialists (iii) Identify constraints, problems and needs with respect to development, implementation and integration of emerging technologies in IPM.

9801361 Sixth FASEB summer conference on Mechanisms in Plant Development
Martienssen, R.A.; Meeks-Wagner, R.
Cold Spring Harbor Laboratory; Cold Spring Harbor, NY 11724
Grant 98-35304-6323; $10,000; 1 Year

The sixth FASEB conference on plant molecular biology will be entitled "Mechanisms in Plant Development" and will be held from August 15-20, 1998 at Saxton's River, Vermont. Plant development has become an enormously popular field, and the last few years have seen major discoveries that have illuminated botanical theories debated in the past. Well-characterized genetic models such as pea and snapdragon, and especially maize and *Arabidopsis thaliana*, have provided insights into the molecules behind many key processes in plant development. Rapid progress in genome mapping, sequencing and functional analysis make the isolation of mutants in virtually any aspect of plant development, and the molecular isolation of the corresponding genes, a routine procedure. We are now in a position to address mechanisms of development using these sophisticated tools. The scientific sessions in this meeting have a more mechanistic bias than previous conferences, but the overall progress through the plant life cycle, from gametogenesis to flowering, has been retained. We have added a session on epigenetics, an area of considerable biotechnological interest, and increased the emphasis on cell-cell interactions, hormonal and environmental regulation of development. The invited speakers include both young and established investigators from within and outside the U.S. Additional speakers will be drawn from attendees on the basis of submitted abstracts By bringing together investigators who study these various systems, we hope to facilitate an exchange of ideas and information on the fundamental aspects of plant growth and development that underlie agricultural productivity of crop plants.

9801888 Spiders in Agroecosystems: Ecological Processes and Biological Control
Rypstra, A. L.; Greenstone, M. H.
Miami University, Oxford; Department of Zoology; Oxford, OH 45056
Grant 98-35302-6027; $7,000; 1 Year

This Symposium will be the first gathering of major European and North American researchers studying spiders in agricultural systems. It is timely because the potential of spiders in controlling agricultural pests has been demonstrated by several recent studies. Also, their effective use in the Indonesian integrated pest management (IPM) program for insect pests of rice, demonstrates that spiders control pests. Our goal is to encourage the development of effective pest management programs employing spiders. We shall start by summarizing the fundamental ecology of spiders in agricultural systems and applications to increase spiders' impacts on pests. We shall analyze the patterns in the diversity of spiders in agricultural communities, describe spider population processes - emphasizing movement mechanisms- and examine effects of feeding behavior on spider population growth, reproduction, and choice of insect prey. We shall describe how spiders affect pest populations and suggest directions for future research. Other topics will include competition, predation by spiders on other insect natural enemies, decomposition and nutrient recycling; and the unintended side effects of pesticides on spider populations. We shall describe methods for increasing spider density and effectiveness in controlling pests, review case studies of successful uses of spiders in IPM programs, and end by suggesting future directions for research on spiders in agroecosystems. This Symposium will stimulate collaboration between scientists throughout the world which will potentially enhance the use of spiders as an environmentally sound control strategy in agricultural systems.

9801600 The Performance of State Programs for Farmland Retention: A National Research Conference
Libby, L. W.
The Ohio State University; Department of Agricultural, Environmental, and Developmental Economics;
Columbus, OH 43210-1067
Grant 98-35401-6115; $10,000; 1 Year

The research conference is proposed to focus on the empirical and methodological aspects of the performance of state-level farmland protection programs. Invited analysts from universities, and state and federal agencies will discuss the economic and social impacts of selected state farmland retention/growth management programs. Objectives are to review current evidence on the impacts of those programs, identify methods and data needs for estimating impacts, develop a research agenda for applied social scientists interested in farmland policy analysis, and improve the quality of communication among program specialists and analysts from the various states. A conference proceedings will be published, including the formal papers and discussion summaries from the program, and made available to researchers and policy specialists.

Each major paper at the conference will address either the mix of policy instruments in place in the selected states, or overall performance implications of a particular authority of government to accomplish certain land policy goals and the acquisition of partial rights in land.

The conference, scheduled for September 10 and 11, 1998 in Columbus, Ohio, will improve information for policymakers, landowners and others participating in land policy development throughout the U.S.

9802553 Second International Symposium on Insect Pheromones
Payne, Thomas L.
The Ohio State University; Ohio Agricultural Research and Development Center; Wooster, OH 44691-4096
Grant 98-35302-5916; $6,000; 1 Year

The conference on insect pheromones will be held March 30-April 3, 1998 at the Wageningen International Conference Centre, 11 Lawickse Allee, Wageningen, The Netherlands. This conference will allow the investigators the opportunity to exchange views ranging from the molecular biology of pheromone receptors to integration of pheromones and pheromone analogs and mimics into integrated pest management programs. This conference will stimulate new collaboration among scientists from North America, Europe, Africa and Asia not only in pheromone research but in such diverse fields as insect neurosciences, insect behavior, natural products chemistry and IPM as well as serve as a catalyst for new collaborative international projects. These collaborative efforts will result in better science in pheromone research. The invitees will be submitting abstracts and presenting posters. The time officially scheduled for discussion following the individual presentations and papers will be at least half the time allocated to "formal" presentations. There will be a publication of the proceedings from the conference called "Proceedings of the Second International Symposium on Insect Pheromones".

9801956 Conference on "Frontiers in Reproduction"
Schatten, G.
Oregon Regional Primate Research Center; Division of Reproductive Science; Beaverton, OR 97006
Grant 98-35203-6010; $10,000; 4 Months

During the past quarter century, advances in reproductive research using species of agricultural importance has been fantastic. The major goal of the course is to instruct promising PhDs, DVMs and MDs in the most sophisticated technologies useful for solving future problems in reproduction. Emerging questions regarding cloning and nuclear transfer, molecular regulation of embryonic gene expression, neuroendocrine control of reproduction, molecular basis of implantation, and reproductive immunology will be covered. This is an intensive six-week laboratory and lecture course for young, independent scientists and physicians and advanced postdoctoral fellows seeking comprehensive and sophisticated training in research strategies and state-of-the-art methods on cellular, immunological and molecular biological approaches for advancing research in reproduction. The course will consist of lectures from resident faculty and other invited speakers, discussions and informal seminars, laboratory exercises and demonstrations and one-on-one tutorials. The five lecture and laboratory modules are integrated to provide participants with broad exposure to the emerging problems in reproduction: Module 1--Gametogenesis and Fertilization {May 26-June 5}; Module 2--Early Development {June 6-June 10}; Module 3--Reproductive Immunology and Stem Cells {June 11-June 18}; Module 4--Signal Transduction and Gene Expression {June 19-June 23}; Module 5--Genetic Manipulations in Reproductive Endocrinology {June 28-July 4}.

9801125 Research Conference Application: 1998 ASAS Growth and Development Program

Forsberg, N. E.
Oregon State University; Department of Animal Science; Corvallis, OR 97331-6702
Grant 98-35206-5960; $5,882; 1 Year

The proposal requests partial support for the combined meetings of the American Society of Animal Science (ASAS) and the American Dairy Science Association (ADSA) to be held in Denver, Colorado on July 28-31, 1998. Three thousand scientists are anticipated to attend the 1998 ASAS/ADSA meetings. The program is designed to interface with other themes presented at the combined meetings by sharing symposia and by identifying commonalities between growth and lactation biologists. The program also features two presentations by scientists from corporate settings regarding recent research with Rismorelin, a potent, synthetic growth hormone secretagogue. Four symposia with eighteen speakers have been organized and include: 1) Muscle Architecture, 2) Cytokines and Animal Growth, 3) Advances in Transgenic Technology, and 4) Molecular Mechanisms of Hormone Action. A symposium on muscle architecture has not been included in the ASAS program for many years; thus, this topic is timely. The role of cytokines in animal growth is a rapidly emerging field of research. This symposium will focus on leptin, growth differentiation factor-8 (myostatin), interleukin-15, and insulin-like growth factor-1. The third symposium will focus on techniques for studying gene regulation in domestic animals and will include discussions of transgenic and embryonic stem cell technology, commercial opportunities for cloned animals and recent advances in gene therapy. The symposium on molecular mechanisms of hormone action will include presentations on growth hormone signaling, insulin action, adipocyte differentiation and functions of Rismorelin. These symposia are expected to form the core of the Animal Growth and Development Program at the 1998 ASAS/ADSA combined meetings.

9803653 4th International Workshop on Lactation in Farm Animals

Kensinger, R. S.
The Pennsylvania State University; Department of Dairy and Animal Science; University Park, PA 16802
Grant 98-35206-6048; $2,500; 1 Year

The Fourth International Workshop on Biology of Lactation in Farm Animals will be held on July 26, 1998 in Denver, CO in association with the combined annual meetings of the American Dairy Science Association and the American Society of Animal Science. This workshop convenes researchers, teachers, government and industry representatives to discuss new and exciting topics related to lactation in farm animals. The workshop includes the following sessions: 1)The Mammary Gland as a Bioreactor, 2)Variations in Normal Mammary Gland Function, 3)Local Regulation of Mammary Gland Function, and 4)Nutrition and Management Effects on Milk Production. Two invited speakers (nationally and internationally recognized for their contributions in their respective areas of research) will provide presentations in each session. A third presentation in each session (of shorter duration) will also be selected from abstracts submitted to this program. Speakers and discussion leaders are encouraged to be thought-provoking and to encourage audience participation in the discussion. Proceedings of the workshop will be published as a supplement to the *Journal of Animal Science.* This workshop provides a unique forum for discussing state-of-the-art research involving lactation in farm animals.

9800870 Financial Support for the 12th Annual Penn State Symposium in Plant Physiology

Pell, Eva J.; Lynch, Jonathan P.
Pennsylvania State University; Department of Plant Pathology; University Park, PA 16802
Grant 98-35100-5989; $7,000; 1 Year

In several fields of plant biology there is growing recognition that phosphorus is a key regulator of plant processes, from cellular signal transduction and gene regulation, through metabolism and morphogenesis, to ecosystem productivity and response to global change. The goal of this meeting is to bring together leading researchers working at diverse levels of organization to consider this topic in an interdisciplinary context. The symposium will bring together 22 outstanding scientists from around the world to provide critical overviews of issues, challenges, and opportunities in a range of topics in cell and molecular biology, physiology, and ecology, with

supporting perspectives from microbiology, phycology, and geology. In addition to invited talks we anticipate approximately 50 contributed posters summarizing current research by scientists, postdoctoral researchers, and graduate students. The proceedings of the symposium will be published by the American Society of Plant Physiologists, thus, providing a comprehensive and readily available introduction to the broad themes and issues related to the roles of phosphorus in plant biology, as well as in-depth treatment of areas of active research and poster "mini-papers" summarizing the latest findings. In addition, the symposium will stimulate discussion and debate among researchers working at distinct levels of organization and from diverse disciplinary perspectives. A major contribution of this symposium will be the formation of new collaborations and renewal of existing associations among researchers to within the international research community.

9803545 Gordon Research Conference on Nitrogen Fixation

Dean, D. R.

Gordon Research Center; West Kingston, RI 02892-0984

Grant 98-35305-6475; $8,250; 1Year

Although the focus of this Gordon Conference is on the reactions associated with biological nitrogen fixation, with particular emphasis on the function of nitrogenase, the enzyme which catalyzes the biological reduction of N_2 to NH_3, lectures will also cover related topics of hydrogenases, the mechanism and assembly of urease and new and provocative systems for nitrogen fixation. Five specific areas of nitrogen fixation research will be covered: 1) Regulation of expression of nitrogenase, 2)biochemical mechanism of nitrogenase, 3)chemistry of nitrogen reduction, 4)metallocenter assembly and 5)metabolism of nitrogen. In pursuit of Gordon Conference goals of fostering open exchange of ideas, the conference will be organized to provide ample time for discussion after each presentation. Young scientists, graduate students and postdoctoral fellows will chair discussions of poster sessions. Funds of this award will be used to support travel expense for these young scientists.

9800473 Gordon Research Conference on the Plant and Fungal Cytoskeleton

Drubin, D.G.

Gordon Research Conference; University of Rhode Island; PO Box 984; West Kingston, RI 02892-0984

Grant 98-35304-6678; $6,000; 1 Year

A Gordon Research Conference on the Plant and Fungal Cytoskeleton will be held August 9-13, 1998 in Andover, New Hampshire. The cytoskeleton is intricately involved in growth and development as a result of its function in such activities as mitosis, cytokinesis, polarity determination, organelle placement, and directed cell expansion. A better understanding of the plant and fungal cytoskeleton is therefore critical to efforts aimed at improvements in crop productivity and control of fungal pathogens. The conference brings together active researchers in the field to explain their recent results, engage in discussion, and plan future collaborative projects and the sharing of biological profiles. The conference organizers widely surveyed the research communication for suggestions regarding the most exciting work being done currently, and in setting up the program of speakers, they aimed to achieve a balance between presentations on plants and fungi.

Emphasis in the program is placed on biological processes such as signal transduction, cytokinesis, cell-cell communication and polarity determination. In addition, several speakers will present research that makes use innovative techniques in real-time analysis of dynamic cellular processes, genetics and molecular manipulation. The program includes speakers from Japan, the United Kingdom, Switzerland, Australia, Germany and the United States. Whenever possible, attempts were made to select junior level investigators to make presentations. In a further attempt to encourage participation by junior members of the scientific community, much of the external funding obtained to support the conference will be used to defray expenses of students and postdocs.

9800872 Gordon Research Conference on Temperature Stress in Plants

Guy, C.L.

Gordon Research Center; University of Rhode Island; West Kingston, RI 02892

Grant 98-35100-5991; $6,000; 1 Year.

The 1999 Gordon Research Conference on Temperature Stress in Plants is scheduled for late January at the Colony Harbortown Hotel in Ventura, California. The Gordon Research Foundation, the sponsor of the conference, provides significant but only partial funding for the conference. This award will help to make possible one of the most important and timely forums in the area of plant environmental stress research. The support will be used to help partially defray the expenses of session chairs, speakers and early career scientists to attend the conference. The 1999 Conference program will be organized around disciplines or noteworthy research approaches. Three aspects of temperature stress will form the unifying themes of the conference, a focus on compatible solutes and their metabolism, application of recombinant approaches to understanding stress responses and an integration of cellular and molecular processes within a larger climatic or global context. Keynote presentations will open and close the conference and help to focus emphasis on the major themes of the conference. The two keynote presentations will set the stage to view cellular and molecular issues within the larger context of climate and the global nature of life processes. Along with sessions on "Model Systems ," "Environment, Developmental Processes and Stress, ""Signal Transduction, Stress Perception and Responses,""Transcriptional and Translational Control of Stress

Responses," "Molecular Chaperones," and "Biochemistry, Metabolism and Physiology of Stress" they will equally highlight the fact that global matters have their origins at the molecular and cellular levels. Discussions concerning the application of increased understanding of the temperature stress responses of plants will be focused towards appropriate agricultural situations.

9801446 1998 Gordon Research Conference on Mitochondria and Chloroplasts
Stern, D.
Gordon Research Conference; West Kingston, RI 02892-0984
Grant 98-35306-6477; $7,000; 1 Year

The Gordon Conferences cover many aspects of science, and are known by their motto, "the frontiers of science." These meetings accept relatively few participants and feature open discussions and a convivial atmosphere, where internationally-known scientists mix freely with young investigators, students and postdoctoral fellows. The conference funded by this proposal covers mitochondria and chloroplasts, two essential energy-producing compartments in eukaryotic cells. When mutations occur that affect the expression of mitochondrial or chloroplast genes, the result is often reproductive or fatal disorders, both in animals and plants. This conference will highlight areas where recent progress has been most impressive, and areas that were under represented in the last conference in this series. These subjects include organelle transmission, mitochondrial mutations, and interorganellar interactions. Information exchanged here will be largely fundamental in nature, however it will also be directly applicable to genetic engineering, particularly with respect to chloroplast modifications, a highly active area in the biotechnology sector. USDA funds will specifically be used to fund travel of U.S. scientists to this meeting, supporting a mix of young scientists and more established ones. Without these funds, U.S. representation at this European meeting would undoubtedly be greatly diminished.

9800474 Mammalian Gametogenesis and Embryogenesis, Gordon Research Conference
Eppig, J. J.
University of Rhode Island; Gordon Research Center; West Kingston, RI 02892-0984
Grant 98-35203-5959; $5,000; 1 Year

An understanding of the fundamental principles underlying the development of gametes and preimplantation embryos is inextricably coupled to continued progress in agricultural efficiency, clinically assisted reproduction, promoting normal embryonic and fetal development, contraceptive development, and preservation of wildlife resources. Moreover, gametes and early embryos are excellent experimental models for basic studies on the molecular and cellular mechanisms of reproduction whose application extends to many areas of biomedical importance. The objective of the Gordon Conference on Mammalian Gametogenesis and Embryogenesis is to provide a fertile environment for exchanging information at the cutting edge of research in the fundamentals of mammalian gametogenesis and embryogenesis that will inspire the generation of new ideas and experimental approaches. This will accelerate the advancement of knowledge of fundamental principles and their practical application to improve the reproductive efficiency of domestic and agricultural animals. It is the long standing philosophy of Gordon Research Conferences to promote interactions among young and established investigators to invigorate progress in critical research areas such as mammalian gametogenesis and embryogenesis.

9802205 Rushmore Conference: Mechanisms in the Pathogenesis of Enteric Disease
Benfield, D. A.; Francis, D. H.
South Dakota State University; Department of Veterinary Science; Brookings, SD 57007
Grant 98-35204-6813; $5,000; 1 Year

This award supports the Second International Conference on the Mechanisms in the Pathogenesis of Enteric Diseases. Diarrheal diseases represent an important and difficult illness to prevent in animals and human beings. Diarrhea is a major health problem in pre-weaned pigs and cattle in the United States. Among cattle acute diarrhea affects approximately 10% of the 40 million beef and dairy calves born annually resulting in economic losses of approximately $100 million per year. Swine and cattle are also believed to be important sources of foodborne pathogens. Medical care and lost productivity due to foodborne illnesses costs the U.S. economy $2.9 to 6.7 billion annually. These pathogens reside in the intestines of animals and often contaminate meat products at slaughter. Many of the enteric diseases transmissible from animal to man invoke concern in urban and rural populations about the risks posed to water supplies by animal confinement units or feedlots. These concerns prevent expansion of livestock operations and result in lost economic opportunities for rural economies. The Rushmore Conference provides an environment for veterinary and medical scientists to exchange ideas and technologies that enhance our understanding of how bacteria, viruses and parasites cause enteric disease.